

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

Corteva Agriscience™ encourages you and expects you to read and understand the entire SDS as there is important information throughout the document. This SDS provides users with information relating to the protection of human health and safety at the workplace, protection of the environment and supports emergency response. Product users and applicators should primarily refer to the product label attached to or accompanying the product container. This Safety Data Sheet adheres to the standards and regulatory requirements of Ireland and may not meet the regulatory requirements in other countries.

SECTION 1: Identification of the substance/mixture and of the company/undertaking

1.1 Product identifier

Trade name	:	KERB™ FLO
Unique Formula Identifier (UFI)	:	9949-K0EH-M00K-YDQY

1.2 Relevant identified uses of the substance or mixture and uses advised against

Use of the Substance/Mixture	:	Plant Protection Product, Herbicide
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1.3 Details of the supplier of the safety data sheet

COMPANY IDENTIFICATION

Manufacturer/importer

Corteva Agriscience UK Limited
Melbourn Science Park - Cambridge Road - Unit H4, Building H
Melbourn Cambridgeshire - SG8 6HB
UNITED KINGDOM

Customer Information Number	:	+44 8006 89 8899
E-mail address	:	SDS@corteva.com

1.4 Emergency telephone number

SGS : +353 818 663 627

National Poisons Information Centre (Beaumont Hospital): 01 809 2166 (8 AM - 10 PM)

SECTION 2: Hazards identification

2.1 Classification of the substance or mixture

Classification (REGULATION (EC) No 1272/2008)

Carcinogenicity, Category 2	H351: Suspected of causing cancer.
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SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

Short-term (acute) aquatic hazard, Category 1

H400: Very toxic to aquatic life.

Long-term (chronic) aquatic hazard, Category 1

H410: Very toxic to aquatic life with long lasting effects.

2.2 Label elements

Labelling (REGULATION (EC) No 1272/2008)

Hazard pictograms :



Signal word : Warning

Hazard statements :
H351 Suspected of causing cancer.
H410 Very toxic to aquatic life with long lasting effects.

Precautionary statements : **Prevention:**
P202 Do not handle until all safety precautions have been read and understood.
P280 Wear protective gloves/ protective clothing/ eye protection/ face protection.
Response:
P308 + P313 IF exposed or concerned: Get medical advice/ attention.
P391 Collect spillage.
Disposal:
P501 Dispose of contents/container to a licensed waste disposal contractor or collection site except for empty clean triple rinsed containers which can be disposed of as non-hazardous waste.

Additional Labelling

EUH208 Contains 1,2-benzisothiazol-3(2H)-one, 2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt. May produce an allergic reaction.

EUH401 To avoid risks to human health and the environment, comply with the instructions for use.

2.3 Other hazards

This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0 Revision Date: 08.04.2024 SDS Number: 800080005273 Date of last issue: -
Date of first issue: 08.04.2024

Ecological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

Toxicological information: The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 3: Composition/information on ingredients

3.2 Mixtures

Components

Chemical name	CAS-No. EC-No. Index-No. REACH Registration number	Classification	Concentration (% w/w)
propyzamide (ISO)	23950-58-5 245-951-4 616-055-00-4	Carc. 2; H351 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 10 M-Factor (Chronic aquatic toxicity): 100	35.09
2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt	68540-70-5	Eye Irrit. 2; H319 Skin Sens. 1; H317	>= 3 - < 10
1,2-benzisothiazol-3(2H)-one	2634-33-5 220-120-9 613-088-00-6	Acute Tox. 4; H302 Acute Tox. 2; H330 Skin Irrit. 2; H315 Eye Dam. 1; H318 Skin Sens. 1; H317 Aquatic Acute 1; H400 Aquatic Chronic 1; H410 M-Factor (Acute aquatic toxicity): 1 M-Factor (Chronic aquatic toxicity): 1 specific concentration limit Skin Sens. 1; H317	>= 0.0025 - < 0.025

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

		>= 0.05 %	
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For explanation of abbreviations see section 16.

SECTION 4: First aid measures

4.1 Description of first aid measures

- | | | |
|-------------------------|---|--|
| If inhaled | : | No emergency medical treatment necessary. |
| In case of skin contact | : | Take off contaminated clothing. Rinse skin immediately with plenty of water for 15-20 minutes. Call a poison control center or doctor for treatment advice.
Suitable emergency safety shower facility should be available in work area. |
| In case of eye contact | : | Hold eyes open and rinse slowly and gently with water for 15-20 minutes. Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eyes. Call a poison control center or doctor for treatment advice. |
| If swallowed | : | No emergency medical treatment necessary. |

4.2 Most important symptoms and effects, both acute and delayed

None known.

4.3 Indication of any immediate medical attention and special treatment needed

- | | | |
|-----------|---|--|
| Treatment | : | No specific antidote.
Treatment of exposure should be directed at the control of symptoms and the clinical condition of the patient.
Have the Safety Data Sheet, and if available, the product container or label with you when calling a poison control center or doctor, or going for treatment. |
|-----------|---|--|

SECTION 5: Firefighting measures

5.1 Extinguishing media

- | | | |
|------------------------------|---|---------------------------------------|
| Suitable extinguishing media | : | Water spray
Alcohol-resistant foam |
|------------------------------|---|---------------------------------------|

- | | | |
|--------------------------------|---|-------------|
| Unsuitable extinguishing media | : | None known. |
|--------------------------------|---|-------------|

5.2 Special hazards arising from the substance or mixture

- | | | |
|---------------------------------------|---|--|
| Specific hazards during fire-fighting | : | Exposure to combustion products may be a hazard to health. Do not allow run-off from fire fighting to enter drains or water courses. |
| Hazardous combustion products | : | During a fire, smoke may contain the original material in addition to combustion products of varying composition which may |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

be toxic and/or irritating.
Combustion products may include and are not limited to:
Carbon oxides
Nitrogen oxides (NO_x)
Hydrogen chloride gas

5.3 Advice for firefighters

- Special protective equipment for firefighters : In the event of fire, wear self-contained breathing apparatus. Use personal protective equipment.
- Specific extinguishing methods : Remove undamaged containers from fire area if it is safe to do so.
Evacuate area.
Use extinguishing measures that are appropriate to local circumstances and the surrounding environment.
Use water spray to cool unopened containers.
- Further information : Collect contaminated fire extinguishing water separately. This must not be discharged into drains.
Fire residues and contaminated fire extinguishing water must be disposed of in accordance with local regulations.

SECTION 6: Accidental release measures

6.1 Personal precautions, protective equipment and emergency procedures

- Personal precautions : Use personal protective equipment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

6.2 Environmental precautions

- Environmental precautions : If the product contaminates rivers and lakes or drains inform respective authorities.
Discharge into the environment must be avoided.
Prevent further leakage or spillage if safe to do so.
Prevent spreading over a wide area (e.g. by containment or oil barriers).
Retain and dispose of contaminated wash water.
Local authorities should be advised if significant spillages cannot be contained.
Prevent from entering into soil, ditches, sewers, underwater.
See Section 12, Ecological Information.

6.3 Methods and material for containment and cleaning up

- Methods for cleaning up : Clean up remaining materials from spill with suitable absorbent.
Local or national regulations may apply to releases and disposal of this material, as well as those materials and items employed in.
For large spills, provide dyking or other appropriate contain-

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

ment to keep material from spreading. If dyked material can be pumped,
Recovered material should be stored in a vented container. The vent must prevent the ingress of water as further reaction with spilled materials can take place which could lead to over-pressurization of the container.
Keep in suitable, closed containers for disposal.
Wipe up with absorbent material (e.g. cloth, fleece).
Soak up with inert absorbent material (e.g. sand, silica gel, acid binder, universal binder, sawdust).
See Section 13, Disposal Considerations, for additional information.

6.4 Reference to other sections

See sections: 7, 8, 11, 12 and 13.

SECTION 7: Handling and storage

7.1 Precautions for safe handling

Advice on safe handling : Do not breathe vapours/dust.
Do not smoke.
Handle in accordance with good industrial hygiene and safety practice.
Avoid exposure - obtain special instructions before use.
Smoking, eating and drinking should be prohibited in the application area.
Avoid inhalation of vapour or mist.
Do not swallow.
Avoid contact with skin and eyes.
Avoid contact with eyes.
Avoid prolonged or repeated contact with skin.
Take care to prevent spills, waste and minimize release to the environment.
Use appropriate safety equipment. For additional information, refer to Section 8, Exposure Controls and Personal Protection.

7.2 Conditions for safe storage, including any incompatibilities

Requirements for storage areas and containers : Store in a closed container. Containers which are opened must be carefully resealed and kept upright to prevent leakage. Keep in properly labelled containers. Store in accordance with the particular national regulations.

Advice on common storage : Strong oxidizing agents

Packaging material : Unsuitable material: None known.

7.3 Specific end use(s)

Specific use(s) : Plant protection products subject to Regulation (EC) No 1107/2009.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0 Revision Date: 08.04.2024 SDS Number: 800080005273 Date of last issue: -
Date of first issue: 08.04.2024

SECTION 8: Exposure controls/personal protection

8.1 Control parameters

Occupational Exposure Limits

Components	CAS-No.	Value type (Form of exposure)	Control parameters	Basis
Propylene glycol	57-55-6	Occupational exposure limit value (8-hour reference period) (particles)	10 mg/m ³	IE OEL
		Occupational exposure limit value (8-hour reference period) (total (vapour and particles))	150 ppm 470 mg/m ³	IE OEL

Derived No Effect Level (DNEL) according to Regulation (EC) No. 1907/2006:

Substance name	End Use	Exposure routes	Potential health effects	Value
Propylene glycol	Workers	Skin contact	Acute systemic effects	
	Remarks: No data available			
	Workers	Inhalation	Acute systemic effects	
	Remarks: No data available			
	Workers	Skin contact	Acute local effects	
	Remarks: No data available			
	Workers	Inhalation	Acute local effects	
	Remarks: No data available			
	Workers	Skin contact	Long-term systemic effects	
	Remarks: No data available			
	Workers	Inhalation	Long-term systemic effects	168 mg/m ³
	Workers	Skin contact	Long-term local effects	
	Remarks: No data available			
	Workers	Inhalation	Long-term local effects	10 mg/m ³
	Consumers	Skin contact	Acute systemic effects	
	Remarks: No data available			
	Consumers	Inhalation	Acute systemic effects	
	Remarks: No data available			
	Consumers	Skin contact	Acute local effects	
	Remarks: No data available			
	Consumers	Inhalation	Acute local effects	

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0 Revision Date: 08.04.2024 SDS Number: 800080005273 Date of last issue: -
Date of first issue: 08.04.2024

	Remarks: No data available			
	Consumers	Skin contact	Long-term systemic effects	
	Remarks: No data available			
	Consumers	Inhalation	Long-term systemic effects	50 mg/m3
	Consumers	Skin contact	Long-term local effects	
	Remarks: No data available			
	Consumers	Inhalation	Long-term local effects	10 mg/m3

Predicted No Effect Concentration (PNEC) according to Regulation (EC) No. 1907/2006:

Substance name	Environmental Compartment	Value
Propylene glycol	Fresh water	260 mg/l
	Marine water	26 mg/l
	Intermittent use/release	183 mg/l
	Sewage treatment plant	20000 mg/l
	Fresh water sediment	572 mg/kg dry weight (d.w.)
	Marine sediment	57.2 mg/kg dry weight (d.w.)
	Soil	50 mg/kg dry weight (d.w.)

8.2 Exposure controls

Engineering measures

Use local exhaust ventilation, or other engineering controls to maintain airborne levels below exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, general ventilation should be sufficient for most operations.

Personal protective equipment

Eye/face protection : Use safety glasses (with side shields).
Safety glasses (with side shields) should be consistent with EN 166 or equivalent.

Hand protection

Remarks : Use chemical resistant gloves classified under Standard EN374: Protective gloves against chemicals and micro-organisms. Examples of preferred glove barrier materials include: Neoprene. Nitrile/butadiene rubber ("nitrile" or "NBR"). Polyvinyl chloride ("PVC" or "vinyl"). When prolonged or frequently repeated contact may occur, a glove with a protection class of 4 or higher (breakthrough time greater than 120 minutes according to EN 374) is recommended. When only brief contact is expected, a glove with a protection class of 1 or higher (breakthrough time greater than 10 minutes according to EN 374) is recommended. NOTICE: The selection of a specific glove for a particular application and duration of use in a workplace should also take into account all relevant workplace factors such as, but not limited to: Other

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

chemicals which may be handled, physical requirements (cut/puncture protection, dexterity, thermal protection), potential body reactions to glove materials, as well as the instructions/specifications provided by the glove supplier.

- | | | |
|--------------------------|---|---|
| Skin and body protection | : | Use protective clothing chemically resistant to this material. Selection of specific items such as face shield, boots, apron, or full body suit will depend on the task. |
| Respiratory protection | : | Respiratory protection should be worn when there is a potential to exceed the exposure limit requirements or guidelines. If there are no applicable exposure limit requirements or guidelines, wear respiratory protection when adverse effects, such as respiratory irritation or discomfort have been experienced, or where indicated by your risk assessment process. For most conditions no respiratory protection should be needed; however, if discomfort is experienced, use an approved air-purifying respirator. |
| Protective measures | : | Personal protective equipment comprising: suitable protective gloves, safety goggles and protective clothing |

SECTION 9: Physical and chemical properties

9.1 Information on basic physical and chemical properties

- | | | |
|--|---|-------------------|
| Physical state | : | Liquid. |
| Colour | : | tan |
| Odour | : | Mild |
| Odour Threshold | : | No data available |
| Melting point/range | : | Not applicable |
| Freezing point | : | -5 °C |
| Boiling point/boiling range | : | No data available |
| Upper explosion limit / Upper flammability limit | : | No data available |
| Lower explosion limit / Lower | : | No data available |

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

flammability limit

Flash point : > 100 °C
Method: Closed Cup, closed cup

Auto-ignition temperature : > 400 °C

pH : 7.91
Method: pH Electrode
(1% aqueous suspension)

Viscosity
Viscosity, dynamic : No data available

Viscosity, kinematic : No data available

Solubility(ies)
Water solubility : No data available

Vapour pressure : No data available

Relative density : No data available

Density : 1.133 g/cm³ (20 °C)
Method: Digital density meter

Relative vapour density : No data available

9.2 Other information

Explosives : Not explosive

Oxidizing properties : No significant increase (>5C) in temperature.

Self-ignition : No data available

Evaporation rate : No data available

Surface tension : 61.5 mN/m, 25 °C, EC Method A5

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

SECTION 10: Stability and reactivity

10.1 Reactivity

Not classified as a reactivity hazard.

10.2 Chemical stability

No decomposition if stored and applied as directed.
Stable under normal conditions.

10.3 Possibility of hazardous reactions

Hazardous reactions : Stable under recommended storage conditions.
No hazards to be specially mentioned.
None known.

10.4 Conditions to avoid

Conditions to avoid : None known.

10.5 Incompatible materials

Materials to avoid : Strong acids
Strong bases
Strong oxidizing agents

10.6 Hazardous decomposition products

Decomposition products depend upon temperature, air supply and the presence of other materials.
Decomposition products can include and are not limited to:
Carbon oxides
Nitrogen oxides (NO_x)
Hydrogen chloride gas

SECTION 11: Toxicological information

11.1 Information on hazard classes as defined in Regulation (EC) No 1272/2008

Acute toxicity

Product:

Acute oral toxicity	: LD50 (Rat, female): > 5,000 mg/kg Remarks: For similar material(s):
Acute inhalation toxicity	: LC50 (Rat, male and female): > 5.19 mg/l Exposure time: 4 h Test atmosphere: dust/mist Assessment: The substance or mixture has no acute inhalation toxicity Remarks: For similar material(s):
Acute dermal toxicity	: LD50 (Rat, male and female): > 5,000 mg/kg

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

Remarks: For similar material(s):

Components:

propyzamide (ISO):

Acute oral toxicity	:	LD50 (Rat): > 5,000 mg/kg
Acute inhalation toxicity	:	LC50 (Rat): > 2.1 mg/l Exposure time: 4 h Test atmosphere: dust/mist Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute inhalation toxicity Remarks: Maximum attainable concentration.
Acute dermal toxicity	:	LD50 (Rabbit): > 2,000 mg/kg Symptoms: No deaths occurred at this concentration. Assessment: The substance or mixture has no acute dermal toxicity

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Acute oral toxicity	:	Remarks: Low toxicity if swallowed. Small amounts swallowed incidentally as a result of normal handling operations are not likely to cause injury; however, swallowing larger amounts may cause injury. LD50 (Rat): > 2,000 mg/kg
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1,2-benzisothiazol-3(2H)-one:

Acute oral toxicity	:	LD50 (Rat, male): 454 mg/kg Method: OECD Test Guideline 401
Acute inhalation toxicity	:	LC50 (Rat, male and female): 0.25 mg/l Exposure time: 4 h Test atmosphere: dust/mist Method: OECD Test Guideline 403 Symptoms: Breathing difficulties
Acute dermal toxicity	:	LD50 (Rabbit): > 5,000 mg/kg

Skin corrosion/irritation

Product:

Species	:	Rabbit
Result	:	No skin irritation

Components:

propyzamide (ISO):

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

Result : No skin irritation

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit
Method : OECD Test Guideline 404
Result : Skin irritation

Serious eye damage/eye irritation

Product:

Species : Rabbit
Result : No eye irritation

Components:

propyzamide (ISO):

Result : No eye irritation

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Result : Eye irritation

1,2-benzisothiazol-3(2H)-one:

Species : Rabbit
Result : Corrosive

Respiratory or skin sensitisation

Product:

Species : Guinea pig
Assessment : Does not cause skin sensitisation.
Remarks : For similar material(s):

Components:

propyzamide (ISO):

Assessment : Does not cause skin sensitisation.
Remarks : Did not cause allergic skin reactions when tested in guinea pigs.

Remarks : For respiratory sensitization:
No relevant data found.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Assessment : May cause sensitisation by skin contact.
Remarks : Has caused allergic skin reactions when tested in guinea pigs.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

Remarks : For respiratory sensitization:
No relevant data found.

1,2-benzisothiazol-3(2H)-one:

Test Type	: Local lymph node assay (LLNA)
Species	: Guinea pig
Method	: OECD Test Guideline 406
Result	: The product is a skin sensitiser, sub-category 1B.

Germ cell mutagenicity

Components:

propyzamide (ISO):

Germ cell mutagenicity- Assessment : In vitro genetic toxicity studies were negative., Animal genetic toxicity studies were negative.

1,2-benzisothiazol-3(2H)-one:

Germ cell mutagenicity- Assessment : Not mutagenic when tested in bacterial or mammalian systems.

Carcinogenicity

Components:

propyzamide (ISO):

Carcinogenicity - Assessment : Limited evidence of carcinogenicity in animal studies

Has caused cancer in laboratory animals.

Reproductive toxicity

Components:

propyzamide (ISO):

Reproductive toxicity - Assessment : In laboratory animal studies, effects on reproduction have been seen only at doses that produced significant toxicity to the parent animals.
Has been toxic to the fetus in laboratory animals at doses toxic to the mother., Did not cause birth defects in laboratory animals.

1,2-benzisothiazol-3(2H)-one:

Reproductive toxicity - Assessment : In animal studies, did not interfere with reproduction., In animal studies, did not interfere with fertility.
Did not cause birth defects in laboratory animals.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

STOT - single exposure

Product:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Components:

propyzamide (ISO):

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

1,2-benzisothiazol-3(2H)-one:

Assessment : Evaluation of available data suggests that this material is not an STOT-SE toxicant.

Repeated dose toxicity

Components:

propyzamide (ISO):

Remarks : In animals, effects have been reported on the following organs:
Liver.
Kidney.
Adrenal gland.
Thyroid.
Ovaries.
Pancreas.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Remarks : No relevant data found.

1,2-benzisothiazol-3(2H)-one:

Remarks : Based on available data, repeated exposures are not anticipated to cause significant adverse effects.

Aspiration toxicity

Product:

Based on physical properties, not likely to be an aspiration hazard.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

Components:

propyzamide (ISO):

Based on physical properties, not likely to be an aspiration hazard.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Based on physical properties, not likely to be an aspiration hazard.

1,2-benzisothiazol-3(2H)-one:

Based on physical properties, not likely to be an aspiration hazard.

11.2 Information on other hazards

Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

SECTION 12: Ecological information

12.1 Toxicity

Product:

Toxicity to fish : LC50 (Oncorhynchus mykiss (rainbow trout)): 53.6 mg/l
Exposure time: 96 h
Test Type: flow-through test
Method: OECD Test Guideline 203
Remarks: For similar material(s):

Toxicity to daphnia and other aquatic invertebrates : EC50 (Daphnia magna (Water flea)): > 99.2 mg/l
Exposure time: 48 h
Test Type: flow-through test
Method: OECD Test Guideline 202
Remarks: For similar material(s):

Toxicity to algae/aquatic plants : ErC50 (Pseudokirchneriella subcapitata (green algae)): 10.4 mg/l
End point: Growth rate inhibition
Exposure time: 72 h
Remarks: For similar material(s):

Ecotoxicology Assessment

Acute aquatic toxicity : Very toxic to aquatic life.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

Components:

propyzamide (ISO):

Toxicity to fish	: LC50 (Oncorhynchus mykiss (rainbow trout)): > 4.7 mg/l Exposure time: 96 h Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates	: LC50 (Daphnia magna (Water flea)): > 5.6 mg/l Exposure time: 48 h
Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.98 mg/l End point: Biomass Exposure time: 72 h EC50 (Lemna gibba): 1.4 mg/l Exposure time: 14 d ErC50 (Myriophyllum spicatum): 0.021 mg/l Exposure time: 14 d NOEC (Myriophyllum spicatum): 0.0006 mg/l Exposure time: 14 d
M-Factor (Acute aquatic toxicity)	: 10
Toxicity to microorganisms	: EC50 (activated sludge): > 1,000 mg/l
Toxicity to fish (Chronic toxicity)	: NOEC: 0.94 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test LOEC: 3.75 mg/l Exposure time: 21 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through test
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0.60 mg/l End point: growth Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: flow-through test LOEC: 1.2 mg/l End point: growth Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: flow-through test MATC (Maximum Acceptable Toxicant Level): 0.85 mg/l End point: growth

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

Exposure time: 21 d
Species: *Daphnia magna* (Water flea)
Test Type: flow-through test

M-Factor (Chronic aquatic toxicity) : 100

Toxicity to soil dwelling organisms : LC50: > 173 mg/kg
Exposure time: 14 d
Species: *Eisenia fetida* (earthworms)

Toxicity to terrestrial organisms : Remarks: Material is practically non-toxic to birds on a dietary basis (LC50 > 5000 ppm).
Material is practically non-toxic to birds on an acute basis (LD50 > 2000 mg/kg).

dietary LC50: > 10,000 ppm
Exposure time: 8 d
Species: *Colinus virginianus* (Bobwhite quail)

oral LD50: 6600 mg/kg bodyweight.
Species: *Coturnix japonica* (Japanese quail)

contact LD50: > 100 micrograms/bee
Exposure time: 48 h
Species: *Apis mellifera* (bees)

dietary LC50: > 136 micrograms/bee
Exposure time: 48 h
Species: *Apis mellifera* (bees)

dietary LC50: > 10,000 ppm
Exposure time: 8 d
Species: *Anas platyrhynchos* (Mallard duck)

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Toxicity to fish : Remarks: Material is not classified as dangerous to aquatic organisms (LC50/EC50/IC50/LL50/EL50 greater than 100 mg/L in most sensitive species).

LC50 (Fish): > 200 mg/l
Exposure time: 96 h

1,2-benzisothiazol-3(2H)-one:

Toxicity to fish : LC50 (*Oncorhynchus mykiss* (rainbow trout)): 0.74 mg/l
Exposure time: 96 h
Test Type: Static
Method: OECD Test Guideline 203 or Equivalent

Toxicity to daphnia and other aquatic invertebrates : EC50 (*Daphnia magna* (Water flea)): 3.7 mg/l
Exposure time: 48 h

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

	Test Type: flow-through test Method: OECD Test Guideline 202 or Equivalent
	EC50 (Mysid shrimp (Mysidopsis bahia)): 0.99 mg/l Exposure time: 96 h
Toxicity to algae/aquatic plants	: ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.61 mg/l Exposure time: 72 h Test Type: static test Method: OECD Test Guideline 201 or Equivalent
	ErC50 (Pseudokirchneriella subcapitata (green algae)): 0.108 mg/l Exposure time: 24 h Test Type: Static Method: OECD Test Guideline 201 or Equivalent
	EC10 (Pseudokirchneriella subcapitata (green algae)): 0.0206 mg/l End point: Growth rate Exposure time: 24 h Test Type: Static Method: (calculated)
M-Factor (Acute aquatic toxicity)	: 1
Toxicity to microorganisms	: EC50 (Bacteria (active sludge)): 28.52 mg/l Exposure time: 3 h Test Type: Respiration inhibition of activated sludge
Toxicity to fish (Chronic toxicity)	: NOEC: 0.21 mg/l Exposure time: 28 d Species: Oncorhynchus mykiss (rainbow trout) Test Type: flow-through Method: OECD Test Guideline 210
Toxicity to daphnia and other aquatic invertebrates (Chronic toxicity)	: NOEC: 0.91 mg/l Exposure time: 21 d Species: Daphnia magna (Water flea) Test Type: flow-through test Method: OECD Test Guideline 211
M-Factor (Chronic aquatic toxicity)	: 1

12.2 Persistence and degradability

Components:

propyzamide (ISO):

Biodegradability : Result: Not readily biodegradable.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

Remarks: Biodegradation may occur under aerobic conditions (in the presence of oxygen).

Stability in water : Test Type: Hydrolysis
pH: 5 - 9
Method: Stable

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Biodegradability : Remarks: Material is inherently biodegradable (reaches > 20% biodegradation in OECD test(s) for inherent biodegradability).

Biodegradation: 60 %
Exposure time: 28 d
Method: OECD Test Guideline 302B or Equivalent

1,2-benzisothiazol-3(2H)-one:

Biodegradability : Result: Not biodegradable
Biodegradation: 24 %
Exposure time: 28 d
Method: OECD Test Guideline 301B or Equivalent

12.3 Bioaccumulative potential

Components:

propyzamide (ISO):

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 49

Partition coefficient: n-octanol/water : log Pow: 3
Remarks: Bioconcentration potential is low (BCF < 100 or Log Pow < 3).

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Partition coefficient: n-octanol/water : Remarks: No relevant data found.

1,2-benzisothiazol-3(2H)-one:

Bioaccumulation : Species: Lepomis macrochirus (Bluegill sunfish)
Bioconcentration factor (BCF): 6.95
Method: OECD Test Guideline 305

Partition coefficient: n-octanol/water : log Pow: 0.99 (20 °C)
pH: 5
Method: OECD Test Guideline 117 or Equivalent

log Pow: 0.63 (10 °C)

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

pH: 7
Method: OECD Test Guideline 117 or Equivalent

log Pow: 0.70 (20 °C)
pH: 7
Method: OECD Test Guideline 117 or Equivalent

log Pow: 0.76 (30 °C)
pH: 7
Method: OECD Test Guideline 117 or Equivalent

log Pow: -0.90 (20 °C)
pH: 9
Method: OECD Test Guideline 117 or Equivalent

12.4 Mobility in soil

Components:

propyzamide (ISO):

Distribution among environmental compartments : Koc: 840
Method: Measured
Remarks: Potential for mobility in soil is low (Koc between 500 and 2000).

Stability in soil : Test Type: aerobic degradation
Dissipation time: 33 d
Method: Measured

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Distribution among environmental compartments : Remarks: No relevant data found.

1,2-benzisothiazol-3(2H)-one:

Distribution among environmental compartments : Koc: 104
Method: Estimated.
Remarks: Potential for mobility in soil is high (Koc between 50 and 150).
Given its very low Henry's constant, volatilization from natural bodies of water or moist soil is not expected to be an important fate process.

12.5 Results of PBT and vPvB assessment

Product:

Assessment : This substance/mixture contains no components considered to be either persistent, bioaccumulative and toxic (PBT), or very persistent and very bioaccumulative (vPvB) at levels of 0.1% or higher.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

Components:

propyzamide (ISO):

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Assessment : This substance is not considered to be persistent, bioaccumulating and toxic (PBT).. This substance is not considered to be very persistent and very bioaccumulating (vPvB).

1,2-benzisothiazol-3(2H)-one:

Assessment : This substance has not been assessed for persistence, bioaccumulation and toxicity (PBT).

12.6 Endocrine disrupting properties

Product:

Assessment : The substance/mixture does not contain components considered to have endocrine disrupting properties according to REACH Article 57(f) or Commission Delegated regulation (EU) 2017/2100 or Commission Regulation (EU) 2018/605 at levels of 0.1% or higher.

12.7 Other adverse effects

Components:

propyzamide (ISO):

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

2-Naphthalenesulfonic acid, 6-hydroxy-, polymer with formaldehyde and methylphenol, sodium salt:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

1,2-benzisothiazol-3(2H)-one:

Ozone-Depletion Potential : Remarks: This substance is not on the Montreal Protocol list of substances that deplete the ozone layer.

SECTION 13: Disposal considerations

13.1 Waste treatment methods

Product : If wastes and/or containers cannot be disposed of according

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

to the product label directions, disposal of this material must be in accordance with your local or area regulatory authorities. This information presented below only applies to the material as supplied. The identification based on characteristic(s) or listing may not apply if the material has been used or otherwise contaminated. It is the responsibility of the waste generator to determine the toxicity and physical properties of the material generated to determine the proper waste identification and disposal methods in compliance with applicable regulations. If the material as supplied becomes a waste, follow all applicable regional, national and local laws.

SECTION 14: Transport information

14.1 UN number or ID number

ADR	:	UN 3082
RID	:	UN 3082
IMDG	:	UN 3082
IATA	:	UN 3082

14.2 UN proper shipping name

ADR	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Propyzamide)
RID	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Propyzamide)
IMDG	:	ENVIRONMENTALLY HAZARDOUS SUBSTANCE, LIQUID, N.O.S. (Propyzamide)
IATA	:	Environmentally hazardous substance, liquid, n.o.s. (Propyzamide)

14.3 Transport hazard class(es)

	Class	Subsidiary risks
ADR	:	9
RID	:	9
IMDG	:	9
IATA	:	9

14.4 Packing group

ADR	:	
Packing group	:	III
Classification Code	:	M6

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

Hazard Identification Number : 90
Labels : 9
Tunnel restriction code : (-)

RID

Packing group : III
Classification Code : M6
Hazard Identification Number : 90
Labels : 9

IMDG

Packing group : III
Labels : 9
EmS Code : F-A, S-F
Remarks : Stowage category A

IATA (Cargo)

Packing instruction (cargo aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

IATA (Passenger)

Packing instruction (passenger aircraft) : 964
Packing instruction (LQ) : Y964
Packing group : III
Labels : Miscellaneous

14.5 Environmental hazards

ADR

Environmentally hazardous : yes

RID

Environmentally hazardous : yes

IMDG

Marine pollutant : yes(Propyzamide)

14.6 Special precautions for user

Marine Pollutants assigned UN number 3077 and 3082 in single or combination packaging containing a net quantity per single or inner packaging of 5 L or less for liquids or having a net mass per single or inner packaging of 5 KG or less for solids may be transported as non-dangerous goods as provided in section 2.10.2.7 of IMDG code, IATA Special provision A197, and ADR/RID special provision 375.

The transport classification(s) provided herein are for informational purposes only, and solely based upon the properties of the unpackaged material as it is described within this Safety Data Sheet. Transportation classifications may vary by mode of transportation, package sizes, and variations in regional or country regulations.

14.7 Maritime transport in bulk according to IMO instruments

Not applicable for product as supplied.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version 1.0	Revision Date: 08.04.2024	SDS Number: 800080005273	Date of last issue: - Date of first issue: 08.04.2024
----------------	------------------------------	-----------------------------	--

SECTION 15: Regulatory information

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture

REACH - Restrictions on the manufacture, placing on the market and use of certain dangerous substances, mixtures and articles (Annex XVII) : Conditions of restriction for the following entries should be considered: Number on list 75, 3

If you intend to use this product as tattoo ink, please contact your vendor.

REACH - Candidate List of Substances of Very High Concern for Authorisation (Article 59). : Not applicable

Regulation (EC) No 1005/2009 on substances that deplete the ozone layer : Not applicable

Regulation (EU) 2019/1021 on persistent organic pollutants (recast) : Not applicable

Regulation (EC) No 649/2012 of the European Parliament and the Council concerning the export and import of dangerous chemicals : Not applicable

REACH - List of substances subject to authorisation (Annex XIV) : Not applicable

Seveso III: Directive 2012/18/EU of the European Parliament and of the Council on the control of major-accident hazards involving dangerous substances. E1 ENVIRONMENTAL HAZARDS

15.2 Chemical safety assessment

A Chemical Safety Assessment is not required for this substance when it is used in the specified applications.

The mixture is evaluated within the frame of the provisions of Regulation (EC) No. 1107/2009. Refer to the label for exposure assessment information.

SECTION 16: Other information

Information Source and References

This SDS is prepared by Product Regulatory Services and Hazard Communications Groups from information supplied by internal references within our company.

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

Full text of H-Statements

H302	: Harmful if swallowed.
H315	: Causes skin irritation.
H317	: May cause an allergic skin reaction.
H318	: Causes serious eye damage.
H319	: Causes serious eye irritation.
H330	: Fatal if inhaled.
H351	: Suspected of causing cancer.
H400	: Very toxic to aquatic life.
H410	: Very toxic to aquatic life with long lasting effects.

Full text of other abbreviations

Acute Tox.	: Acute toxicity
Aquatic Acute	: Short-term (acute) aquatic hazard
Aquatic Chronic	: Long-term (chronic) aquatic hazard
Carc.	: Carcinogenicity
Eye Dam.	: Serious eye damage
Eye Irrit.	: Eye irritation
Skin Irrit.	: Skin irritation
Skin Sens.	: Skin sensitisation
IE OEL	: List of Chemical Agents and Carcinogens with Occupational Exposure Limit Values - Code of Practice, Schedule 1 and 2
IE OEL / OELV - 8 hrs (TWA)	: Occupational exposure limit value (8-hour reference period)

ADR - Agreement concerning the International Carriage of Dangerous Goods by Road; ASTM - American Society for the Testing of Materials; ECx - Concentration associated with x% response; EmS - Emergency Schedule; ErCx - Concentration associated with x% growth rate response; GHS - Globally Harmonized System; GLP - Good Laboratory Practice; IATA - International Air Transport Association; IBC - International Code for the Construction and Equipment of Ships carrying Dangerous Chemicals in Bulk; IC50 - Half maximal inhibitory concentration; IMDG - International Maritime Dangerous Goods; IMO - International Maritime Organization; LC50 - Lethal Concentration to 50 % of a test population; LD50 - Lethal Dose to 50% of a test population (Median Lethal Dose); MARPOL - International Convention for the Prevention of Pollution from Ships; n.o.s. - not otherwise specified; NOEC - Non-Observed Effective Concentration; OECD - Organization for Economic Co-operation and Development; OPPTS - Office of Chemical Safety and Pollution Prevention; (Q)SAR - (Quantitative) Structure Activity Relationship; RID - Regulations concerning the International Carriage of Dangerous Goods by Rail; SDS - Safety Data Sheet; UN - United Nations.

EC-Number - European Community number REACH - Regulation (EC) No 1907/2006 of the European Parliament and of Council concerning the Registration, Evaluation, Authorisation and Restriction of Chemicals.

Further information

Classification of the mixture:

Carc. 2	H351
Aquatic Acute 1	H400
Aquatic Chronic 1	H410

Classification procedure:

Calculation method
Based on product data or assessment
Calculation method

Product code: GF-3300

SAFETY DATA SHEET

according to Regulation (EC) No. 1907/2006, Annex II and its amendments.



KERB™ FLO

Version	Revision Date:	SDS Number:	Date of last issue: -
1.0	08.04.2024	800080005273	Date of first issue: 08.04.2024

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